Subject: Children ever death and children ever died
Posted by Tesfay on Sun, 24 Nov 2024 12:51:47 GMT
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Dear DHS experts, first I acknowledge the support you give to researchers, with a special thanks to Tom Pullum.
As part of my PHD work, I am looking on the effect of fertility rate on child mortality. I plan to follow to approaches:
1) I regress the probability of survival (b5) of under-five children on the number of children born in the last five years using the KR file.
2) I am trying to see the effect of the number of children ever-born (v201) on the number of children ever-died (v206+v207) using simultaneous equation modeling (Due to the simultaneity and endogeneity of the variables). I am using Ethiopia DHS (pooled from 2000 to 2019) and I understand that the IR file is the correct unit of analysis for the 2nd approach.
But I also need to control for other variables (b4, b0) and women's characteristics (maternal age at delivery (b3-v011), place of delivery (m15a) for all the children ever born, which are found in the BR file. So, please guide me on the ff issues.
1. Is my analysis plan and unit of analysis theoretically sound?
2. How can I get the variables in the BR file in the IR; I tried to merge using 1:m from BR to IR but it showed me an error message "variables caseid, v001, v002 do not recognize . . . "
3. Does it make sense to do the analysis using the BR file if it is impossible to merge?

Excuse me for asking conceptual questions, it is due to my lack of experience with DHS data.

Subject: Re: Children ever death and children ever died
Posted by Janet-DHS on Wed, 27 Nov 2024 16:46:19 GMT
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Following is a response from DHS staff member, Tom Pullum:

Thanks for the thanks!

There is no need to merge the IR and BR files. The BR file has one record for each birth in the woman's birth history. That record includes most of the mother's variables from the IR file, including the summary variables v201-v209. The IR file has one record for each woman (whether or not she ever had any children). It includes all of the b variables with subscripts. For the most recent birth, for example, b4_01 is the sex of the child and b5_01 is the survival status. I believe the question is which of these files do you want to use, NOT how do you merge them.

I'm not sure how you would apply SEM to the data. I suggest something a little different. Your research question could be, for example, "Does having a child death increase the probability of having another birth?" It could be that women (or parents) try to replace a child who has died. The probability could change over time and could depend on the sex of the child who died or the current sex composition. If this is what you are thinking of, please let us know and I can suggest a way to do it.

Another strategy with repeated surveys is to take a cohort perspective. For example, women born in 1980 (Gregorian calendar) will appear in all of the surveys, at different stages of family building. You can re-organize the data into a quasi-longitudinal structure. I do this sometimes when checking whether successive surveys in the same country are consistent with one another.

For SEM there is the crucial limitation that you only have a sequence of independent cross-sections and almost all the variables describe current status. There's not much retrospective information outside of the birth histories. Rather than jumping into a complex analysis, I strongly suggest that you start the analysis with a simple approach, using crosstabs and regressions, and then add complexity to the extent that it is possible and necessary.

Subject: Re: Children ever death and children ever died
Posted by Tesfay on Wed, 04 Dec 2024 11:46:14 GMT
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Thank you for the prompt response. My primary interest (stated as an objective) is "To see the Effect of fertility decline on child survival". Looking at the DHS data, "Does reduction in the number of children ever born (v201) result on reduction in the number of children died (v206+v207)?

So, ignore my previous attempts and questions, focus on the above research question, and please

1. Comment me if my research question is applicable to DHS data

2.suggest me the write dataset/data file and appropriate model for determining "the effect of fertility decline(if not possible fertility rate) on child survival (if not possible child mortality)

Note: My primary interest is from fertility decline to child survival, not the reverse.

Actually, i did descriptive decomposition of the change in the number of children borne and died between 2000 and 2019. I also did IVprobit test between b5 and v208. Both are done using the KR file, but I need to extend the analysis to the whole fertility and mortality data (as given in BR file). This takes us to my previous questions:

--If I use IR (which I feel the right base file for v201-209, how can I get b* variables for all children (as in BR). --If I use the BR file, how to understand the v201-v209 variables in it? E.g. the mean of v201 in IR is not the same that of BR. The frequency in tabulation of v201 in BR is " the number of children whose mothers have n number of children not just the number of mothers with n number of children as in IR.

Regarding SEM/GSEM, i read it can estimate system of equations simultaneously Fertility<---->mortality.

Excuse me for my vague questions and just guide me based on my objective.

Subject: Re: Children ever death and children ever died
Posted by Tesfay on Wed, 04 Dec 2024 11:54:39 GMT
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Subject: Re: Children ever death and children ever died
Posted by Janet-DHS on Wed, 04 Dec 2024 19:41:59 GMT
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Following is a response from DHS staff member, Tom Pullum:

The under-5 mortality rates (in chapter 8 of most final reports) describe the probability that a birth will result in a death within the first month, year, 5 years, etc. Roughly speaking, the number of child deaths is proportional to the number of births. If there are fewer births, there will be fewer deaths, just because of that proportionality. With just v201 and v206+v207, you can't go beyond

that kind of proportionality. And with just those variables you are really limited, because they don't tell you the age at death for children who died.

Perhaps you are trying to get at some effect beyond that proportionality. In chapter 8 you will see a section on so-called high-risk births, mainly closely spaced births. As fertility declines, there tend to be fewer high-risk births, which also reduces the number of deaths. Then there are separate trends in the under-five mortality rates than are separate from the fertility trends. Historically, there have been declines in mortality separately from declines in fertility.

With the retrospective birth histories, you can get at most of these effects. You can also get at whether women/couples tend to replace a child who has died, an effect in the opposite direction that I mentioned earlier.

So, I would say that your research question is good for DHS data if you use the birth histories, but not if you just use v201 and v206+v207. I don't have anything to add.