

## SABRE

### EXERCISE 4 SOME ADVANCED ISSUES

File: WEMP2.DAT

#### THE VARIABLES

case	individual identifier
femp	wife's employment status; 1=employed, 0=unemployed
mune	husband's employment status; 1=unemployed, 0=employed
time	calendar time (year-1975)
und1	children aged < 1 year old; 1=yes, 0=no
und5	children aged 1 - 5 years old; 1=yes, 0=no
age	mother's age

1. Declare the variables; read the data; specify the response variable.  
You should have read in 1580 observations.

2. To keep a log of your work.

```
<S> outfile out4
```

3. Fit a logistic mixture regression model with mune and und5 as explanatory variables but with no endpoints.

```
<S> yvar femp  
<S> end n  
<S> fit int mune und5
```

4. Note the deviance and degrees of freedom. Note the number of observations.

5. Now fit the drop model.

6. Note the number of observations.

7. Now fit the lag model. Note the number of observations, the deviance and the degrees of freedom.

8. Is the lag model an improvement on the drop model?

9. Fit a logistic mixture regression model with mune and und5 as explanatory variables but with no endpoints and then a model with endpoints and compare the two.

<S> lag n

<S> end n

<S> fit int mune und5

<S> dis m

<S> dis e

<S> end both

<S> fit int mune und5

<S> dis m

<S> dis e

10. Does the inclusion of endpoints significantly improve the model?

11. What does this tell us about mover/stayers?

12. Could the effects of husband's employment status vary depending on the structure of the family (i.e. having children)?

13. Compute an interaction effect for und1 and mune, and for und5 and mune.

<S> tran int1 und5 \* mune

<S> tran int2 und1 \* mune

14. Include int1 in a logistic mixture model with endpoints.

15. Is int1 significant?

16. What can we conclude?

17. What does the sign of the parameter estimate for int2 suggest about the effects of husband's employment status and having a child aged between 1 and 5?

18. Fit a lagged model with int2 included.

19. Is int2 significant?

20. What does this tell us?

21. Are the endpoints significant?

22. What does this suggest?