EC3090 – Econometrics -
Lab session 3
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Data file: SLEEP75

Exercise C8.1, Wooldridge 4 E, page 298.

Consider the following model to explain sleeping behavior:

$$sleep = \beta_0 + \beta_1 totwrk + \beta_2 educ + \beta_3 age + \beta_4 age^2 + \beta_5 yngkid + \beta_6 male + u,$$

 i) Write down a model that allows the variance of u to differ between men and
    women. The variance should not depend on other factors.
 ii) Use the data in SLEEP75 to estimate the parameters of the model for
    heteroskedasticity. Is the estimated variance of u higher for men than for women?
 iii) Is the variance of u statistically different for men and women?

Variables

 1. age   in years
 2. black   =1 if black
 3. case   identifier
 4. clerical   =1 if clerical worker
 5. construc   =1 if construction worker
 6. educ   years of schooling
 7. earns74   total earnings, 1974
 8. gdhlth   =1 if in good or excellent health
 9. inlf   =1 if in labor force
10. leis1   sleep - totwrk
11. leis2   slpnaps - totwrk
12. leis3   rlxall - totwrk
13. smsa   = 1 if live in smsa
14. lhrwage   log hourly wage
15. lothinc   log othinc, unless othinc < 0
16. male   = 1 if male
17. marr   = 1 if married
18. prot   = 1 if Protestant
19. rlxall   slpnaps + personal activs
20. selfe   =1 if self employed

21. sleep   mins sleep at night, per week
22. slpnaps   mins sleep, including naps, per week
23. south   =1 if live in south
24. spsepay   spousal wage income
25. spwrk75   =1 if spouse works
26. totwrk   mins worked per week
27. union   =1 if belong to union
28. worknrm   mins work main job
29. workscnd   mins work second job
30. exper   age - educ - 6
31. yngkid   =1 if children < 3 present
32. yrsmarr   years married
33. hrwage   hourly wage
34. agesq   age^2