

# Homework

## Econometric Methods

Fall 1999

### Instructions

Using the data provided on the website (<http://ladkins.bus.okstate.edu>) and the SAS software, answer each of the following. The data file is called foodus.txt. The assignment is due on Friday, 19 November.

### Problems

1. Do exercise 10.7 parts (a), (b), (c), and (e) in your textbook.
2. At the 5% level test the null hypothesis that the model is homoscedastic using White's test at the 5% level.
3. Test the hypothesis that the model is heteroscedastic function of number of people in the household and income using the Breusch-Pagan test at the 5% level.
4. Estimate the model under the assumption that it has heteroscedasticity of the form:

$$\text{var}(e_t) = \sigma_t^2 = \exp\{\alpha_1 + \alpha_2 x_t + \alpha_3 n_t\} \quad (1)$$

using the maximum likelihood estimator in SAS. Compare the results to those of the FGLS estimator you used in 10.7(e).

5. Do exercise 10.8.