Homework 8

ECON 4818

Professor Martins

1. From your textbook, answer the following questions:

   (a) Chapter 4: problems 2 and 8.

   (b) Chapter 6: problems 2 and 4.

2. Use the MATLAB code `MOLSwage2.m` and data set `WAGE1.mat` available from the class website to estimate the the following regression model:

$$\log(wage)_i = \beta_0 + \beta_1\, educ_i + \beta_2\, exper_i + \beta_3\, exper_i^2 + u_i,$$

   where $i = 1, \cdots, n$. Under the assumption that the assumption that $u_i \sim N(0, \sigma^2)$ for all i, that $\{u_i\}_{i=1}^n$ forms an independent sequence, test the following hypotheses at the 5 percent level:

   (a) $H_0 : \beta_1 = \beta_2 = 0$

   (b) $H_0 : \beta_3 = 0$

   (c) $H_0 : \beta_1 = \beta_2 + \beta_3$.