

Home assignment 4

October 14, 2005

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Due October 19, 2005

### **Problem 1:**

Data: C<sub>4</sub>\_Tax

Randomly selected individual tax returns for 1990 were prepared by a local branch of a national tax preparation service. Total income for the 65 returns selected were ranged from a low of \$368 to \$65627. The data collected from each return includes:

1. Total income (TOTALINC),
2. Earned income (EARNDINC),
3. Other income (OTHERINC),
4. Federal itemized or standard deductions (DEDUCTS),
5. Marital Status (MARRIED=1 if married, =0 otherwise) and
6. Total tax paid as a percent of total income (TAXPERCT).

Questions:

1. Provide a Scatterplots of TOTALINC versus TAXPERCT with different plotting symbols for marital status.
2. Sketch two parallel lines on the previous scatterplot, one for married and one for single. These lines suggest a regression model that has TAXPERCT as dependent variable and 2 independent

3. Calculate the total tax paid difference between male and female
  4. Fit TAXPERCT ON TOTALINC, OTHERINC, MARRIED and EARNINC
  5. We want to check if DEDUCTS is important to predict TOTALPERCT taking in consideration the effect of TOTALINC, OTHERINC, MARRIED AND EARNINC. Provide the added variable plot. Calculate the partial coefficient of correlation
  6. Provide the overall test for the model
  7. Summarize Rsquare, rsquare adjusted, typical error etc.
  8. Check if each explanatory variable is important to predict the TAXPERCT.
- 9 A person lost his parents so the person has inherited \$500,000 during that year. Calculate the the person total tax paid as percent of his/her total income.