

PH, Mar 13, 2010

Advanced Econometrics – Lecture 1: Exercise

In Exercise 2.2 of Verbeek, the sample given in data set “wages” is used to answer the question whether women are systematically underpaid compared with men. Table 2.8, p.48, gives the output of a regression analysis, the model for the log hourly wages being explained besides *male* by *age* and *educ*. Use in this exercise the whole dataset (data file *WAGES1*) and the definition $age = school + exper + 6$.

1. Repeat the analysis for the model (model 1) where the log hourly wages are explained by *male* and *age*.
2. Repeat the analysis (model 2) after adding to model 1 four dummy variables for the educational levels 2 through 5 instead of the variable *educ*.
3. Use an *F*-test, adjusted R^2 , and the BIC to decide whether model from 1. or that from 2. is preferable.
4. Use the PE-test (see Verbeek, p. 64) to decide whether the Verbeek’s model in Table 2.8 (where levels of hourly wages are explained) or the model 1 extended by the variable *educ* is to be preferred.