

B203 Exercise Sheet 7

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1. Find the critical values for the F distribution for 5% tests for the following cases.
 - a. Two restrictions to be tested , 28 observations, 8 Regressors (and a constant) in the unrestricted model.
 - b. Four restrictions to be tested , 16 observations, 6 Regressors (and a constant) in the unrestricted model.
 - c. Repeat the above for the case where you have a large sample of observations.
2. Consider the following regression model

$$Y_i = a + b_1X_{i1} + b_2X_{i2} + b_3X_{i3} + b_4X_{i4} + b_5X_{i5} + u_i$$

- a. Write the restricted version of the model under the hypothesis that the coefficients on the first two regressors sum to 1 and the coefficients on the last two regressors sum to zero.
 - b. If you were to test this hypothesis with 1500 observations what test procedure would you use and what would be the critical value you would use?
3. Use the pssobh.dta data set to test the hypothesis that growth of wages is quadratic in age against the alternative that it is best modelled as a fourth order polynomial in the BHPS. **Do this for men and women and for two education groups separately: Define the two education groups as:** Those with less than or equal to 12 years of education and those with more.