

Econometrics

Lecture 10: Multiple Linear Regression: Problem of Estimation Quiz

1. In the population regression function for a multiple regression is specified as: $Y_i = \beta_1 + \beta_2 X_{2i} + \beta_3 X_{3i} + u_i$. In this equation, what does the coefficient β_1 and β_2 stand for?
a) Regression Coefficient b) Partial regression constant
c.) Regression Intercept d) **partial slope of the regression coefficients**
2. How many regressor does $Y_i = \beta_1 + \beta_2 X_{2i} + \beta_3 X_{3i} + \beta_4 X_{4i} + u_i$ function have?
a) 2 **b) 3** c) 1 d) 0
3. The number of observations n must be **greater than** the number of explanatory variables.
4. The X values in a given sample must not all be the same. **True** / False
5. What is multicollinearity?
Multicollinearity is the occurrence of high linear correlation among independent variables in a multiple regression model.
6. Partial regression coefficient gives the “direct” or the “net” effect of a unit change in X_2 on the mean value of Y , net of any effect that X_3 may have on mean Y . **True** / False
7. The multiple coefficient of determination is denoted as **R^2** / r^2 in multiple regression.