[Glossary]

Multiple Regression Model and Extensions

Subject:	Business Economics
Course:	B. A. (Hons.), 5th Semester, Undergraduate
Paper No. & Title:	Paper – 531 Elective Paper Q1 – Advanced Econometrics
Unit No. & Title:	Unit – 1 Relaxing the Assumptions of the Classical Linear Model
Lecture No. & Title:	Lecture – 2 Multiple Regression Model and Extensions

Glossary

1. Multiple regression model

It is a regression relation between dependent variable Y and explanatory variables $X_2, X_3 \dots X_k$

2. Partial correlation coefficients

These are the coefficients attached with explanatory variables in the k variate multiple regression model (Denoted by $\beta_2, \beta_3 \dots \beta_k$)

3. Zero order or product moment correlation coefficient

These are Correlation coefficients between pairs of explanatory variables

e.g. $r_{ij} = Corr(X_i, X_j)\ i = 1, 2, \dots k$

$j = 1, 2, \dots k\ (i \neq j)$

4. Multiple correlation coefficient

It is the correlation Coefficient between independent variable Y with all the explanatory variables $X_2, X_3 \dots X_k$ in fact it is

$$R = R_{1 \cdot 23 \dots K} = \frac{Cov(Y, \hat{Y})}{\sqrt{V(Y) \cdot V(\hat{Y})}}$$

5. Multiple coefficient of determination

Denoted by R^2 (square of multiple correlation coefficient. R^2 always lies between 0 and 1.

6. Rank of a matrix

It is the number of independent rows or columns of the matrix.

7. Double log model

Log value of Y in terms of log values of all the explanatory variables

8. Log Lin model

It is a model with log values, of Y in terms of values of X's.

9. Lin log model

It is a model with values of Y expressed in terms of log value of X's

10. Reciprocal model

It is a model with value of Y expressed in terms of reciprocal values of x

11. Homoscadasticity

It is uniform (constant) variance of disturbance term U.