[Glossary]

Others Functional Forms

Subject:	Business Economics
Course:	B. A. (Hons.), 3rd Semester, Undergraduate
Paper No. & Title:	Paper – 304 Basic Econometrics
Unit No. & Title:	Unit – 4 Others Functional Forms
Lecture No. & Title:	Lecture – 1 Others Functional Forms

Glossary

1 Linear model: $Y_i = b_0 + b_1 X_i$

Recall that in the linear regression model, $Y_i = b_0 + b_1 X_i$ the coefficient b_1 gives us directly the change in Y for a one-unit change in X.

2 Linear-log model: $Y_i = b_0 + b_1 logX_i$

In the linear-log model, the literal interpretation of the estimated coefficient b_1 is that a one-unit increase in logX will produce an expected increase in Y of b_1 units.

3 Log-linear model: $logY_i = b_0 + b_1 X_i$

In the log-linear model, the literal interpretation of the estimated coefficient b_1 is that a one-unit increase in X will produce an expected increase in log Y of b_1 units.

4 Log-log model: $logY_i = b_0 + b_1 logX_i$

In instances where both the dependent variable and independent variable(s) are log-transformed variables, the interpretation is a combination of the linear-log and log-linear cases above.

Reciprocal Transformation: $Y_i = b_0 + b_1 \left(\frac{1}{X_i}\right)$

If the relationship between Y and X is curvilinear, as in the case of the Phillips curve, this model generally gives a good fit.