

Questions

A transformation of the data on x_i and y_i (like taking their logarithm) changes the interpretation of the slope parameter β .

- (a) Show that in the regression model $\log(y_i) = \alpha + \beta \log(x_i) + \varepsilon_i$, the elasticity of y with respect to x is equal to β (that is, does not depend on the values of x_i and y_i).
- (b) Determine the elasticity of y with respect to x in the model $y_i = \alpha + \beta \log(x_i) + \varepsilon_i$.
- (c) Determine the elasticity of y with respect to x in the model $\log(y_i) = \alpha + \beta x_i + \varepsilon_i$.