

Estimated Regression Equation

Using population data, the parameters β_0 and β_1 may be computed and used to compute the value of $E[Y]$ for a known value of x . However, the parameter values β_0 and β_1 are, most of the time, unknown. Using sample data, you may compute the sample statistics b_0 and b_1 which may be used as estimates of the parameters β_0 and β_1 , respectively.

When b_0 and b_1 are substituted for β_0 and β_1 , respectively, the estimated simple linear regression is obtained. The estimated simple linear regression equation is given by

$$\hat{y} = \beta_0 + \beta_1 x.$$

