

Econometrics

Lecture 7: Extension of Simple Regression: Functional Forms I Quiz

1. The intercept term is **Zero/ absent**. hence this regression is named as regression through the origin.
2. To test the relationship between Y (dependent) and X (explanatory) variables, which of the following graph best suited?
 - a. Histogram
 - b. **scatterplot**
 - c. bar graph
 - d. none of the above
3. If $w_1 = w_2$, that is, the scaling factors are identical, the slope coefficient and its standard error remain the same. **True** / False
4. r^2 value is invariant to changes in the unit of measurement, as it is a pure, or dimensionless, number. **True** / False
5. What is an interesting property of a standardized variable?
An interesting property of a standardized variable is that its mean value is always zero and its standard deviation is always 1.
6. Can r^2 can be negative? Explain
 - (i) r^2 can be negative in regression through origin models.
 - (ii) Because, $\sum u^i$, which is always zero for the model with the intercept term (the conventional model), need not be zero when that term is absent.
 - (iii) r^2 is always nonnegative for the conventional model, can on occasions turn out to be negative for the interceptless model.