Self-evaluation Tests

Wages 1

Instructions

- Click **Start**.
- Answer the questions.
- Click **End**.
- The cell **Score:** shows the number of right answers.
- Each question is worth 1 point.
- Click **Correct** to check the correct answers.
- The test starts on the next page.
- Recommended duration: 15 minutes.

Questions

Open the data file `wages.gdt` to analyse wages (W) as a function of experience (EX).

Simple Linear Regression Model

1. The simple linear regression model would be:

(a) $W_i = \beta_1 + \beta_2 + u_i$

(b) $W_i = \beta_1 + \beta_2 \, EX_i + u_i$

(c) $W_i = \beta_2 \, EX_i + u_i$

(d) $W_i = EX_i + u_i$

2. The dependent variable is:

(a) β_2 (b) EX (c) u (d) W

3. The explanatory variable is:

  (a) β_2 (b) EX (c) u (d) W

4. The sample size is:

  $T =$

5. The sample regression function is:

  (a) $W_i = 5.37331 + 0.0307219\,EX_i$

  (b) $\widehat{W}_i = 0.0307219 + 5.37331\,EX_i$

  (c) $W_i = 5.37331 + 0.0307219\,\widehat{EX}_i$

  (d) $\widehat{W}_i = 5.37331 + 0.0307219\,EX_i$

6. The estimated wage for a worker without experience is:

  (a) 5.37331   (b) 0.0307219   (c) 0.256992   (d) 0.012747

7. The estimated wage for the first worker in the sample is:

  (a) 5.37331   (b) 3.10   (c) 5.434749   (d) 5.4040319

8. The OLS residual for the first worker in the sample is:

(a) 10   (b) -2.33475   (c) 5.434749   (d) 5.680529

9. The estimated wage for a worker with one year of experience is:

(a) 5.37331   (b) 3.10   (c) 5.434749   (d) 5.4040319

10. The estimated standard error of $\hat{\beta}_2$ is:

(a) 0.256992   (b) 3.693086   (c) 3.672972   (d) 0.0118111

11. The coefficient of determination is:

(a) 0.010863   (b) 0.012747   (c) 0.009555   (d) 0.0118111

12. Test whether experience is a statistically significant variable. The null hypothesis is:

(a) $\beta_1 = \beta_2 = 0$ (b) $\beta_1 + \beta_2 = 1$

(c) $\beta_2 = 0$ (d) $\beta_2 = 1$

13. The sample value of the statistic to test whether experience is a statistically significant variable is:

(a) 20.9085   (b) 0.256992   (c) 0.012747   (d) 2.6011

14. Experience is a statistically significant variable. ($\alpha = 5\%$)

(a) True   (b) False