Self-evaluation Tests

Wages 3

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: 10 minutes.

Questions

Open the data file wages.gdt. Estimate by OLS the regression model:

$$W_i = \beta_1 + \beta_2\, EX_i + \beta_3\, EX_i^2 + u_i$$

General Linear Regression Model

1. The number of unknown coefficients in the model is:

   (a) 1   (b) 2   (c) 3   (d) 526

2. The number of explanatory variables is:

   (a) 1   (b) 2   (c) 3   (d) 526

3. Does this model satisfy the linearity assumption?

   (a) Yes   (b) No

4. The sample regression function is:

(a) $\widehat{W}_i = 3.72541 + 0.298100\, EX_i + 0.00612989\, EX_i^2$

(b) $W_i = 3.72541 + 0.298100\, EX_i + 0.00612989\, EX_i^2$

(c) $\widehat{W}_i = 3.72541 + 0.298100\, EX_i - 0.00612989\, EX_i^2$

(d) $W_i = 3.72541 + 0.298100\, EX_i - 0.00612989\, EX_i^2$

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

(a) 3.72541   (b) 4.02351   (c) 4.017380   (d) 4.02963989

6. Test whether the variable experience is statistically significant. The null hypothesis is:

(a) $\beta_1 = \beta_2 = \beta_3 = 0$ (b) $\beta_2 = \beta_3 = 0$

(c) $\beta_2 = 0$ (d) $\beta_3 = 0$

7. Test whether the variable experience is statistically significant. The sample value of the test statistic is:

(a) 10.7690   (b) 7.2769   (c) -6.7920   (d) 26.73982

8. The variable experience is statistically significant ($\alpha = 5\%$).

    (a) True   (b) False

9. Test whether the relationship between wages and experience is linear. The null hypothesis is:

    (a) $\beta_1 = \beta_2 = \beta_3 = 0$ (b) $\beta_2 = \beta_3 = 0$
    (c) $\beta_2 = 0$ (d) $\beta_3 = 0$

10. Test whether the relationship between wages and experience is linear. The sample value of the test statistic is:

    (a) 10.7690   (b) 7.2769   (c) -6.7920   (d) 26.73982

11. The relationship between wages and experience is linear ($\alpha = 5\%$).

    (a) True   (b) False