A Formula which should appear on the lecture capture of Tuesday (W6)

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Abstract

The following formula should appear on the last ten minutes of the lecture capture on Tuesday (W6)

Formula as below

$$y_i = \beta_0 + \beta_1 x_{1i} + \beta_2 x_{2i} + \beta_3 x_{3i} + \left(\sum_{j=1}^{n_1} D_{ji} \gamma_{j-1} \right) + \varepsilon_i$$

where $i = 1, 2, ..., n, n+1, ..., n+n_1$, and the indicator function (dummy variable)

$$D_{ji} := \begin{cases} 1 & \text{if } i = n + j \\ 0 & \text{elsewhere} \end{cases}.$$

□

An alternative formula without using the summation symbol

y_i can also be equivalently expressed as follows, without using the summation symbol:

$$y_i = \beta_0 + \beta_1 x_{1i} + \beta_2 x_{2i} + \beta_3 x_{3i} + D_{1i}\gamma_0 + D_{2i}\gamma_1 + ... + D_{n_1 i}\gamma_{n_1 - 1} + \varepsilon_i$$

where $i = 1, 2, ..., n, n+1, ..., n+n_1$. □