

# ANALYSIS OF PANEL DATA

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Fixed-Effect and Random-Effect Models

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# Fixed-Effect Model

# Remarks on Fixed-Effect Models

# $R^2$ and Degree of Freedom in a Fixed Effect Model

- Note that the R-squared of the fixed effect equation (i.e. demeaned equation) should be interpreted with caution.
- It measures the amount of time variation in  $y_{it}$  that can be explained by the variation of the explanatory variables.
- In a general fixed effect model, we have  $N \times T$  observations and  $k$  independent variables. As such, we should have  $NT - k$  degree of freedom. Is that correct?

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