

# ECON3360 - Tutorial 1

Ali Furkan Kalay

July 31, 2023

# Introduction

- ▶ Contact: [a.kalay@uq.edu.au](mailto:a.kalay@uq.edu.au)
- ▶ Additional materials: [alfurka.github.io/teaching](https://alfurka.github.io/teaching)
- ▶ STATA: **UQ Digital Workspace**
- ▶ Consultation: **Tuesday 15:00 - 16:00**
  - ▶ *Zoom link available on BB*

# Linear-Linear Model

$$Y = a + bX$$

- ▶ This is the most straightforward type of regression. In this model, both  $X$  and  $Y$  are measured on a linear scale, so the interpretation is straightforward.
- ▶ If  $X$  increases by 1 unit,  $Y$  is expected to change by  $b$  units, holding all else constant.

# Log-Log Model

$$\ln(Y) = a + b \ln(X)$$

- ▶ This is a logarithmic transformation of both the dependent and independent variables, also known as a log-log model.
- ▶ If  $X$  increases by 1%,  $Y$  is expected to change by  $b\%$ , holding all else constant.

# Log-Linear Model

$$\ln(Y) = a + bX$$

- ▶ In this model, the dependent variable  $Y$  is logged while the independent variable  $X$  is in its original linear form.
- ▶ If  $X$  increases by 1 unit,  $Y$  is expected to change by  $(b * 100)\%$  in percentage terms, holding all else constant.

# Linear-Log Model

$$Y = a + b \ln(X)$$

- ▶ In this model, the independent variable  $X$  is logged while the dependent variable  $Y$  is in its original linear form.
- ▶ If  $X$  increases by 1%,  $Y$  is expected to change by  $0.01b$  units, holding all else constant.