

# EC 320 Problem Set 2

Winter 2022

## INSTRUCTIONS:

There are four questions in total. Please answer them all and show the steps of how you derived your answer to receive the full credit

### 1. Regression Logic (8 points)

- a) TEXT.
- b) TEXT.
- c) TEXT.
- d) TEXT.

## 2. Calculating OLS estimates (12 points)

- a) TEXT.
- b) TEXT.
- c) TEXT.
- d) TEXT.

### 3. Proof (8 points)

- a) Residuals sum to zero
- b) The sample covariance between the independent variable and the residuals is zero.

#### 4. Goodness of Fit (12 points)

- a) Calculate the Total Sum of Squares
- b) Calculate the Residual Sum of Squares
- c) Calculate  $R^2$
- d) Show that  $TSS = RSS + ESS$ .