Homework 7

Economics 7103

March 4, 2024

1 Question 1

1.1 a

The coefficient estimate is -0.0656 and the standard error is 0.0014

1.2 b.

The coefficient estimate is -0.0704 and the standard error is 0.0010.

1.3 c.

The issues with these approaches are that they don't account for yearly trends. This is especially impactful because 2020 is in the same, and the overall macro shocks of the year likely led to systematic difference in electricity consumption that are not being captured in the models.

2 Question 2

2.1 a

The coefficient estimate is -.0500 and the standard error is .0250

2.2 b

This helps address the issues in 1c by controlling for macro-level trends that were likely causing unobserved heterogeneity in the models.

3 Question 3

3.1 a

The coefficient estimate is -.0271 and the standard error is 0.0115

3.2   b

We might not trust the standard errors because we calculated a two-step estimator manually without using the residuals from the first step.