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Analysis of Variance - Quiz

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Question 1

1/1 point (graded)

Give the bounds for this measure of goodness-of-fit:

$$a \leq SSR/SST \leq b$$

Lower Bound (a)

✓ Answer: 0

Upper Bound (b)

✓ Answer: 1

Explanation

- ▶ [Module 5: Moments of a Random Variable, Applications to Auctions, & Intro to Regression](#)
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The Linear Model

due Nov 28, 2016 05:00 IST



Both the sum of squared residuals and total sum of squares will be positive, and the **SSR** is a lower bound on the **SST**. Both the **SSR** and **SST** must be positive because they are both sums of squared quantities, and squared quantities must always be positive. We chose the estimate of **Y** that goes into the **SSR** in order to minimize the sum of squared residuals, so we know that **SSR** \leq **SST**.

Submit

You have used 1 of 2 attempts

✓ Correct (1/1 point)

Question 2

1/1 point (graded)

Why do we divide **SSR** (sum of squared residuals) by **SST** (sum of total squares) to get a measure of goodness-of-fit?

- ☐ a. On its own, SSR does not measure goodness of fit.
- ☐ b. On its own, SSR generally results in values that are too large.
- ☒ c. Dividing by SST makes the measure unit-free ✓
- ☐ d. We can divide SSR by SST, but it's actually better to subtract.

Explanation

The Multivariate Linear Model

due Nov 28, 2016 05:00 IST



Module 9: Homework

due Nov 21, 2016 05:00 IST



- ▶ Module 10: Practical Issues in Running Regressions, and Omitted Variable Bias

- ▶ Exit Survey

The sum of squared residuals (SSR) on its own **does** measure goodness-of-fit. That's what we minimized in order to find the ordinary least squares (OLS) estimator. However, the SSR would be in the units of X and Y , which is inconvenient if we ever want to convert between units. Dividing by the SST , which has the same units as the SSR , makes the measure units-free.

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You have used 1 of 2 attempts

✓ Correct (1/1 point)

Discussion

Topic: Module 9 / Analysis of Variance - Quiz

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