

MITx: 14.310x Data Analysis for Social Scientists

Help



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 Fundamentals of
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Long Question 6 - More on Flowers in China

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Download the data set used in Quan's paper (qian.csv). The data contains the following variables:

- admin: an id for each region in China.
- birthyear: a variable that corresponds to year.
- **sex**: the sex ratio $\left(\frac{male}{female}\right)$ that were born in that region in that year.
- **teasown**: whether tea is produced in region *j*.

Load the data in R and now answer the following questions:

Question 23

1.0/1.0 point (graded)

Explore the data and input the following variables:

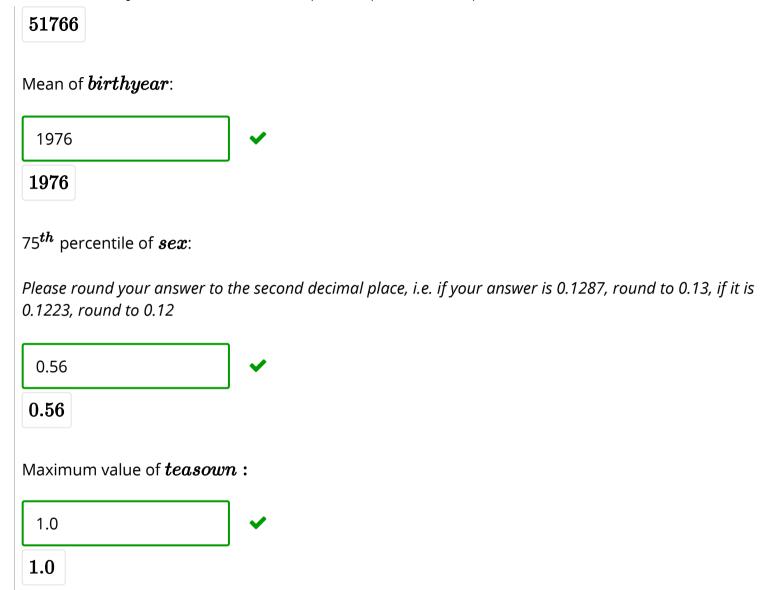
Number of observations:

51766



Functions of Random Variable

- Module 5: Moments of a Random Variable, Applications to Auctions, & Intro to Regression
- Module 6: Special
 Distributions, the
 Sample Mean, the
 Central Limit Theorem,
 and Estimation
- Module 7: Assessing and Deriving Estimators -Confidence Intervals, and Hypothesis Testing
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- Module 9: Single and Multivariate Linear Models
- Module 10: Practical Issues in Running Regressions, and Omitted Variable Bias
- Module 11: Intro to Machine Learning and Data Visualization
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- **▼** Final Exam

Final Exam

Final Exam due Dec 19, 2016 05:00 IST Submit

You have used 1 of 1 attempt

Question 24

1.0/1.0 point (graded)

Create a variable post = 1 if birthyear >= 1979. Similarly, create the interaction between teasown and this variable.

In how many observations is the dummy post switched on?

In part 2, please round your answer to the third decimal place, i.e. if your answer is 0.1245, round to 0.125 and if it is 0.1243, round to 0.124

Observations:

21309



21309

What is the mean of the interaction?

0.081



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You have used 1 of 1 attempt

Question 25

1.0/1.0 point (graded)

Estimate the following model in R:

$$sex_{jt} = eta_0 + eta_1 teasown_j + eta_2 post_t + eta_3 teasown_j imes post_t + arepsilon_{jt}$$

Based on your estimation input the following values:

Please round your answer to the third decimal place, i.e. if your answer is 0.1245, round to 0.125 and if it is 0.1243, round to 0.124

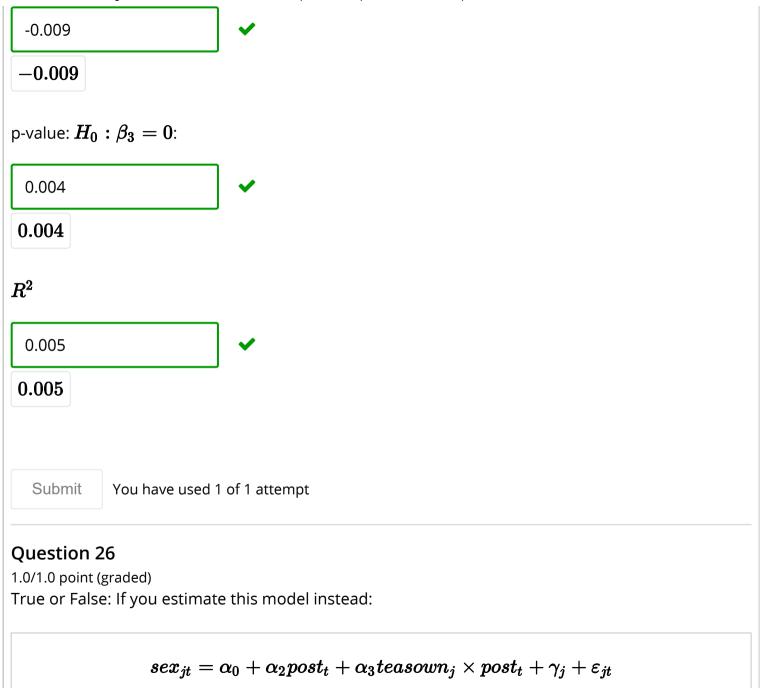
 $\hat{oldsymbol{eta}}_{0}$:

0.503



0.503

 \hat{eta}_{3} :



you would have $\hat{eta}_3=\hat{lpha}_3$?

- a. True
- b. False

Submit

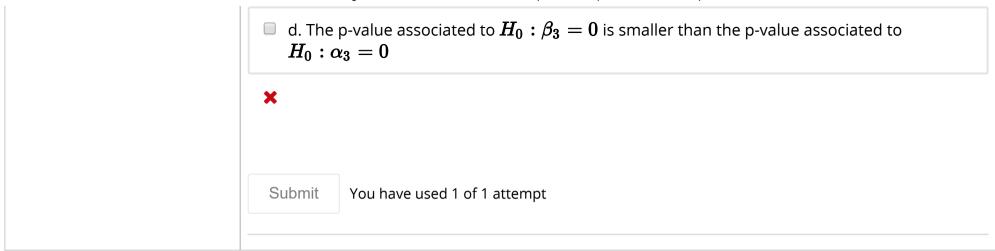
You have used 1 of 1 attempt

Question 27

0.0/1.0 point (graded)

Go through the R documentation and estimate this fixed effects model. Which of the following statements are true? (Select all that apply)

- $ilde{ extstyle extstyl$
- $^{\square}$ b. Our point estimates show that $\hat{lpha}_3 \leq \hat{eta}_3$.
- $extcolor{@}{ ilde{oldsymbol{arepsilon}}}$ c. The p-value associated to $H_0: lpha_3 = 0$ is larger than the p-value associated to $H_0: lpha_3 = 0$



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