ECO 4000 FALL 2018

FINAL REVIEW WORKSHOP PART I

Chapter 4:

1. To decide whether the slope coefficient indicates a "large" effect of X on Y, you look at the
    a. size of the slope coefficient
    b. regression
    c. economic importance implied by the slope coefficient
    d. value of the intercept

2. Assume that you have collected a sample of observations from over 100 households and their consumption and income patterns. Using these observations, you estimate the following regression Ci = β0+β1Yi+ ui where C is consumption and Y is disposable income. The estimate of β1 will tell you
    a. Δ Income / $\triangle$ Consumption
    b. The amount you need to consume to survive
    c. Income / Consumption
    d. Δ Consumption / $\triangle$ Income

3. Which of the following is the correct formula for $\widehat{\beta_0}$?
    a. $\widehat{\beta_0} = \bar{Y} - \widehat{\beta_1}\bar{X}$
    b. $\widehat{\beta_1} = \bar{Y} - \widehat{\beta_0}\bar{X}$
    c. $\widehat{\beta_0} = \bar{X} - \widehat{\beta_1}\bar{Y}$
    d. $\widehat{\beta_0} = Y_i - \widehat{\beta_1}X_i$

4. The reason why estimators have a sampling distribution is that
    a. economics is not a precise science.
    b. individuals respond differently to incentives.
    c. in real life you typically get to sample many times.
    d. the values of the explanatory variable and the error term differ across samples.

5. If n decreases standard error will _____ and p-value _____.
    a. Increase, increase

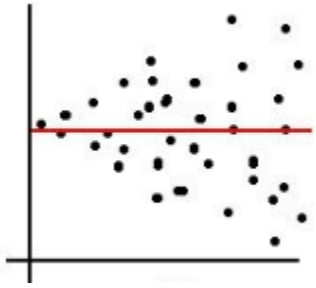
b. Increase, decrease
c. Decrease, increase
d. Decrease, decrease

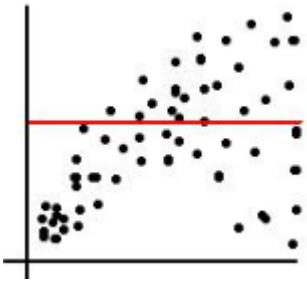
6. Alaskan students (n=100) score on average 78.9 on exams, with a variance of 9; Californian students (n=300) on average score on average 69.2 on exams, with a variance of 17.5. Construct the confidence interval at 95% for the difference of means for Alaskan students and Californian students.

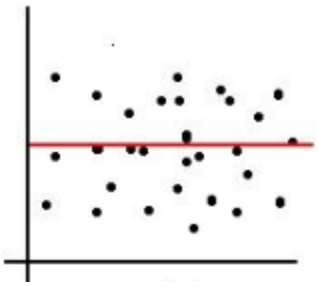
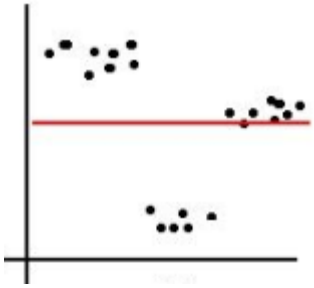
Chapter 5:

7. Which of the following description about Hetero/Homoscedastic is NOT correct?
   a. Homoscedastic means Var(Ui|Xi)=constant; in other words, if all random variables in the sequence have the same finite variance, then it is homoscedastic.
   b. Heteroscedastic means Var(Ui|Xi)≠constant; in other words, if the variance of all random variables in the sequence depend on the sequence Xi, then it is heteroscedastic.
   c. For our purpose, we use homoscedastic standard error to test our hypothesis.
   d. For our purpose, we use heteroscedastic-"robust" standard error to test our hypothesis.

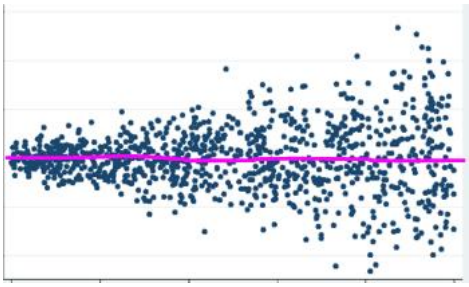
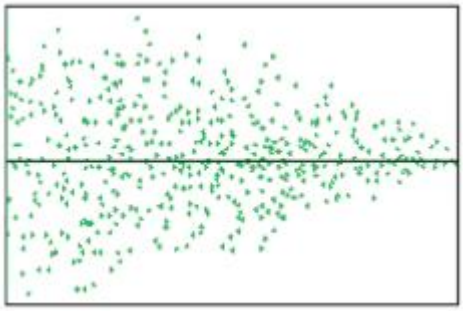
8. Which of the following graph of data shows Homoscedasticity?

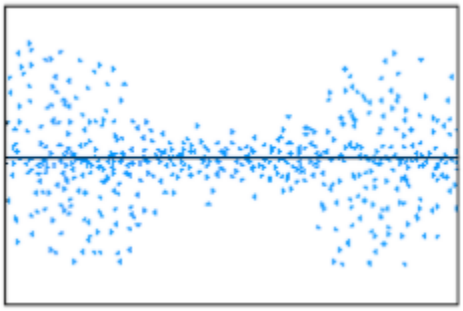
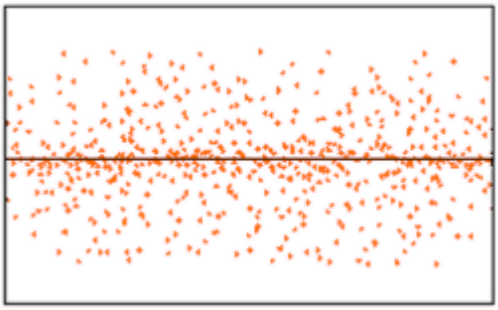
a. 

c. 

b.  d. 

9. Which of the following graph of data shows Homoscedasticity?

a.  c. 

b.  d. 

10. Consider the following Regression:

Test Score = 68.5 + 7.5 * WS_attd + Ui | R^2= 0.64, n=144, SER = 30

(3.17)

Where WS_attd is a binary variable, X=1 when a student attends at least one workshop or X=0 when a student attended no workshops.

a. Write out the hypothesis and test it at the 5%, 1% significance level.

b. Instead suppose the student claimed that they had thought on average students who go to Workshops are study longer/better students and that is what attributed to their test scores being significantly higher. What type of error is this? What

variable we might thing of adding? How can we test if the added variable is significant?

Chapter 6:

11. When you have an omitted variable problem, the assumption that E [Ui | Xi] = 0 is violated. This implies that:
    a. the sum of the residuals is no longer zero.
    b. there is another estimator called weighted least squares, which is BLUE.
    c. the sum of the residuals times any of the explanatory variables is no longer zero.
    d. the OLS estimator is no longer consistent.

12. In multiple regression, the R^2 increases whenever a regressor is:
    a. added unless the coefficient on the added regressor is exactly zero.
    b. added.
    c. added unless there is heterosckedasticity.
    d. greater than 1.96 in absolute value.

13. Consider the multiple regression model with two regressors X1 and X2, where both variables are determinants of the dependent variable. You first regress Y on X1 only and find no relationship. However when regressing Y on X1 and X2, the slope coefficient β1 changes by a large amount. This suggests that your first regression suffers from:
    a. heteroscedasticity
    b. perfect multicollinearity
    c. omitted variable bias
    d. dummy variable trap

14. Imperfect multicollinearity
    a. is not relevant to the field of economics and business administration
    b. only occurs in the study of finance
    c. means that the least squares estimator of the slope is biased
    d. means that two or more of the regressors are highly correlated