

## ECON 4230 Intermediate Econometric Theory

### Problem Set #4

Due: Thursday, April 5, 2018

#1. Gujarati and Porter, 5<sup>th</sup> Edition, Exercise 10.27. In part (b), make sure to use the simple correlation coefficient(s) and VIF(s) to defend your answer.

#2. Gujarati and Porter, 5<sup>th</sup> Edition, Exercise 11.15. Parts (a) and (b) only. Then test for heteroscedasticity and comment on the results. Also, provide GLS and White's adjusted OLS estimates. Again, comment on the results.

#3. Build and estimate a model to predict Wyoming's unemployment rate for 2018. Use annual data between 1976-2017 downloaded from FRED (<https://fred.stlouisfed.org/series/WYUR#0>). Then answer the following questions.

- a) Provide an interpretation of the estimate coefficients using at least two explanatory variables. Comment on the goodness of fit and the signs of the coefficients.
- b) Test for autocorrelation using the graphical method and the Durbin Watson test.
- c) Provide Newey-West robust standard errors. Comment on the differences from the standard errors in part (a).
- d) Provide feasible GLS estimates (either Cochrane-Orcutt or Prais-Winsten) of the model and comment on the results.
- e) What does your preferred model say about the predicted unemployment rate in 2018 for Wyoming?