ECON 345 – Final Review Question:

**1. Why does the starting point problem pose a problem for tests on the basis of a likelihood ratio?**

**2. Why is box cox estimation biased and median-unbiased?**

**3. Give three examples of biased estimation and discuss what can be done in the bias in each case.**

Example of biased estimators:

1. measurement error
2. omitted variable bias
3. simultaneous equations bias

**4. Describe the simultaneous equation problem. What happens to OLS estimates in this context?**

**5.Describe what is required for a variable to be employed as an identifying**

**restriction? Why are natural experiment so important?**

**6. You are faced with a simultaneous equation estimation problem in which you do not believe the true error are normal. Describe how you might employ two state east absolute deviations in a statistical program in this is not preprogrammed. How might you obtain estimates of the coefficient standard errors.**

**7. Why might bias be a private good even if it is a public bad? What can be done about this?**

* While variance has no sign, bias does,
* related this to public choice – information is costly to an individual but informed voters are public good. Conversely, if we believe Brayn Caplan’s rational irrationality model, bias is comfortable even if it is irrational(etc. religion, protectionism, many views on immigration) but irrationality is a public bad. Irrationality is just biased beliefs. In order from individuals to make the costly trade off between irrationality (bias) and rationality(information), the cost of irrationality must increase. Likewise, “as the implicit price of irrationality falls, the quantity of irrationality consumed rises”
* It all comes down to preferences and prices. People have preferences over beliefs but “people will tailor their degree of rationality to the costs of error” so to get rid of bias. Bias must be costly

**8.Explain why exploratory data analysis depends upon us being aware that we are unaware of important facts.**

Exploratory data analysis is broad process(data mining)

EDA handout The process of regression is simply a vector projection

Not to be trusted as meaningful if you data mining a huge amount of data, you are likely to find something that works OK you can go through all the techniques until you find one that works.