

Quantitative Methods for Lawyers

Problem Set #3

Professor Daniel Martin Katz

Michigan State University College of Law

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Instructions: You may work in groups but each student must do their own work and submit his/her own problem set. If you work with others, please denote this fact in the upper right corner of your problem set (including the names of everyone in your group). Please show all of your work (**including Stata output where applicable**) in order to receive credit. **Due at Noon - April 13, 2012** (Note the Time Extension). Please submit a **hard copy** either to me or to Sue Nelson in Room 465. **Retain a photocopy or scanned copy for your records.**

Problem 1 *Worth 40pts*

We will work again with the dataset of housing prices from 1981. We are going to use this to develop a rough prediction model using this data. Open a Log File and Do File so that you can use it to submit clean output when you turn in your assignment. Next, please access version of the [hprice1981.dta](#) file that is on the course webpage.

In Problem Set #2 Part (c), I offered a sketch of a potential prediction model for housing prices. I did so without determining whether this was the best possible model or whether alternative model specifications might be better. Assume you have been hired by a consulting firm to develop a “house price prediction app” and that the company is using the [hprice1981.dta](#) to test whether you have what it takes to develop a well specified model without specific direction from your superior.

Explore the [hprice1981.dta](#) dataset and please develop your own prediction model from the data. Please offer a detailed analysis and defend your choices including the decision to include or not include a specific variable, variable specification (interactions, transformations, etc.). Please provide a proper table of your results (including one that compares it to other alternatives).

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Problem 2 *Worth 40pts*

Imagine you have been asked to develop a prediction model for automobile prices. Use the auto.dta that is preinstalled in stata. In the same spirit as previous problem - assume you have been hired by a consulting firm to develop a “automobile price prediction app” and that the company is using the auto.dta to test whether you have what it takes to develop a well specified model without specific direction from your superior.

Explore the auto.dta dataset and please develop your own prediction model from the data. Please offer a detailed analysis and defend your choices including the decision to include or not include a specific variable, variable specification (interactions, transformations, etc.). Please provide a proper table of your results (including one that compares it to other alternatives).

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Problem 3 *Worth 20pts*

Please Review the Article: Leandra Lederman, Which Cases Go To Trial?: An Empirical Study of Predictors of Failure to Settle, 49 Case Western L. Rev. 315 (1999).

Describe in detail several (i.e. at least three) (a) possible extensions of the model (b) alternative approaches to measure the independent variables in question and/or (c) issues with the manner in which the model is currently constructed.

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