

## Project

Select a set of variables (no less than 4) that theory, or your intuition, suggest are related (The source of the data is not important. You can select a dataset that you have created, from those provided on the class website, <http://www.clarku.edu/faculty/mcallan/Econ160.html> , or one supplied to you in another class, for example). Each variable must have at least 30 observations.

Describe briefly, in a paragraph or two, the relationship that you are going to test, including: the direct relationship that you are going to test, the potential confounding factors for which you have data, other potential confounding factors that you do not have data for.

Project Overview (also see the project section of the website):

The final project is due in class on the 4<sup>th</sup> of December. The project should be typed, and be at least 10 pages in length. Please do not include computer printouts, programs, log files, etc. Rather, summarize your findings in prose, with simple equations, and the relevant statistical analysis.

I would like each person to complete an econometric and statistical analysis of a dataset which you have constructed, or which you have chosen from among the various data series that you find in links on this website. In order to complete the project, each project is expected to draw on (1) computational tools learned in this class; (2) basic econometrics and statistics learned in this class, (3) your knowledge of the basic theory and models that you are testing, be it an economic, business, finance, psychology, etc., theory.

The basis of any statistical project is one or more questions that are relevant to your particular dataset. Mention why the issue(s) you've raised is relevant, in the context of, for example, government policy, social welfare, assessing the rationality of economic agents, constructing "good" forecasting models, etc. If it's not obvious what you'd like to do, you may want to pick up a basic macro text, say, and look for simple theories which link two or more economic variables together. However, for the project it suffices to pick a group of variables and simply give me an intuitive explanation of why you might expect the variables to be related in a regression context. Alternatively, you may want to consider constructing competing forecasting models and comparing them. **(Note: Unless you are developing a Forecasting Model, avoid data series that involve time (Time Series), instead select data that relates to one point in time but varies over countries, individuals, etc. The reason being that data that has a dynamic component are difficult to analyze (this type of data analysis is the subject matter of Econ 273, Economic Forecasting)).** On the other hand, if you do choose to simply posit the relationship between some group of variables, remember to pay close attention to explaining your expectations concerning the signs of the coefficients in your regression model, etc.

The individual parts of your project will be incorporated into assignments and completed over the semester (so that by the end of the semester all that you should have to do is combine each of the parts into one project, this obviously depends on the grade that you get for each part – if you get a poor grade on any of the parts you will be asked to redo that part). The individual parts can be summarized as: Select A Dataset (this part is the crucial part, when you select a dataset you should have in mind some questions about the relationship between the individual variables in your dataset), Perform a Univariate Analysis, Perform a Multivariate Analysis (this will be broken into two parts in the assignments), and Evaluate the Multivariate Analysis.

When combining each of the individual components into a complete project, I would like you to discuss your approach to answering these questions given your particular dataset. In particular, discuss your expectations concerning estimated economic relationships, signs of coefficients, slopes of graphs, evolution of your series across individual, etc.

Finally, report to me your “best” findings in the form of a project, being careful to discuss why you think those findings are "best."

Please don't hesitate to contact myself or your TA if you have any questions.