# Data, Model, & Methodology

1.  In one sentence, state your research question.


2.  State your null hypothesis ($H_0$) and alternative hypothesis ($H_A$).  If you have more than one hypothesis, please state them all.


3.  What theoretical economic model is relevant to your research question?  Explain what this model predicts about your research question.  Where appropriate, please include a graph or graphs.  (Hint: regression is an *empirical* method not a theoretical model.)


4.  Who collected your data (*i.e.*, what is the name of the government agency or the private company that is the ***primary*** source of the data)?  If you downloaded your data from a ***secondary*** source other than the agency/company that actually generates the data, please provide that information as well.  If your data come from multiple sources, please answer this question for all sources.


5.  Where did you get the data (*i.e.*, provide web address if you downloaded it, provide contact name/number if you got it from an individual, reference a paper or book, etc…)?


6.  If the data is part of a survey, what is the name of the survey?


7.  What time period does your data span (*i.e.*, cross-section: 1995 only;  time series: 1960 – 2001)?


8.  What is the unit of analysis (*i.e.*, an individual, a firm, a school district, a state)?


9.  Provide a list of variables that are available and you think you may use.  Define each variable as in the handout that accompanied the in-class exercise utilizing SAT data. Include no more than 20 variables.


10. Provide summary statistics for the variables that you listed in question (9).  For each variable, report the mean, standard deviation, minimum, and maximum.  This information should be reported in an easy-to-read table which also includes the total number of observations.  Please see in-class exercise utilizing SAT data.

11. Method of Analysis [complete *either* (a) or (b)]:
    a.  If your method of analysis will include regression:
        i.  What is your dependent variable?
        ii.  What are your potential independent (or explanatory) variables?
        iii.  What sign do you anticipate on the parameter estimate of each of the potential explanatory variables that you listed in (ii)?  It is acceptable to say that you don't have any *a priori* expectation about the sign.

    b.  If your method of analysis will not include regression, describe clearly what your methodology entails.

12. Describe how your method of analysis (from question (11)) will test your null hypothesis and allow you to answer your research question.  How will you know when you have successfully addressed your research question?

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**Looking Forward**

It is acceptable for you to answer the 12 questions above in numbered list format.  That said, the information in your answers will soon need to be reworked into written text.

You may remember (from the syllabus) that the basic format for your paper is:
    I.  An introduction that states and motivates your research topic/question (see Assignment #2)
    II.  A review of the scholarly literature relevant to your topic/question (see Assignment #3)
    III.  A description of your economic model and hypotheses to be tested (see Assignment #5)
    IV.  A description of your data and sources (see Assignment #5)
    V.  A presentation of your statistical results (using graphs, tables, etc…) (see Assignment #6)
    VI.  A conclusion summarizing your findings, policy implications, and unresolved issues for future research

As you can see, this assignment is designed to get you started on writing the two middle sections of the paper.  These are arguably the **MOST IMPORTANT** sections of the paper because they are the "meat" of what your project is all about while many of the other pieces are just the bread and condiments.  Assignment #6 will ask you for written text for sections III and IV above as well a draft of section V.  I would strongly encourage you to begin translating your answers to the 12 questions above into the text for sections III and IV of your paper.  Papers cited in your literature review can be used as good examples of how sections III and IV should be written.

**PLEASE TURN IN THIS ASSIGNMENT IN YOUR BINDER!**