

The University of Illinois at Chicago Economics 346: Econometrics

Second Computer Lab Project

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Automotive, Transportation Internet Sites

www.nhtsa.dot.gov/ National Highway Traffic Safety Administration (DOT)

www.bts.gov/ Department of Transportation National Transportation Statistics

www.ita.doc.gov/auto/ International Trade Administration, Automotive Affairs

www.aiam.org/99short.htm Association of International Automobile Manufacturers

www.sae.org Society of Automotive Engineers

<http://insurance.about.com> Insurance

www.alldata.com Vehicle repair

www.carpaint.msn.com Car prices

www.kbb.com Kelley Blue Book used car prices

www.edmund.com Edmund's car prices

www.motortrend.com Motor Trend magazine

It's time to buy a car! The sedan market has 22 different makes/models that are considered relatively close substitutes. The dealer invoice price is a function of engine cylinders, horsepower, the cubic space (length times height times width in cubic feet), the weight in pounds, and EPA mileage estimates. Some believe that there is a foreign premium to pay as well -- that foreign-company cars (no matter where they are assembled) cost more. For this we will need a dummy variable: 0 if domestic, 1 if foreign.

You may work on this project in groups or individually. Each person must submit his own output and answers to the questions.

1. Decide on the type of car market (sedan, luxury sports car, SUV, for example) that you want to research.
2. Decide also on the relevant characteristics (the list in the paragraph above is a standard group, but you may add others or substitute).
3. Collect the information on prices and the relevant characteristics of at least 15 (20 or more is better) different cars in this market. A list of Internet sites is above. I used Edmund's car prices, which lists prices, characteristics, and close competitors. You may use other sources if you wish.
4. Fill in the chart on the next page, and enter the data into an Excel file. Add a foreign car dummy variable in the final column, 0 if domestic (U.S. made) and 1 if foreign. If you wish, you may attach instead a printout of your Excel table organized like the chart.
5. Compute the correlations of all the variables with each other and attach it. (Tools, Data Analysis, Correlations)
6. Run 2 regressions, with and without the foreign car dummy variable. Make sure you get the predicted values, the residuals, and both the line fit charts and the residual charts. Attach the output, and use it to answer the questions below.

