The data set bus580_ps6.dta is a Stata data set containing four-week ending sales (cases) from May 5, 2007 to April 2, 2011 for several regions in California. Use Stata and Excel to answer following questions. Your typed answers are due at the beginning of the next class. Answers must be presented in a professional manner for full credit. You may want to export your data into Excel to generate graphs for aesthetic purposes.

Trend Analysis-Analyzing Tasting Room Strategies

1. Graphical Analysis
   a. Show graphically the trend in retail sales for the open wineries along Highway 29 in Napa.
   b. Show graphically the trend in retail sales for open wineries along the Silverado Trail wineries in Napa.
   c. Compare (i.e., show graphically together) the trend in retail sales for the open Highway 29 and open Silverado Trail wineries. Describe your graph.
      Note, there are two ways to accomplish this with the data in the current format:
      i. Export the data to Excel using the table function: table date region,c(mean total_cases).
      ii. Use the “twoway” graphing function: twoway (scatter y x)(scatter z x)
   d. Show graphically the trend in retail sales for the reserved wineries along Highway 29 in Napa.
   e. Compare (i.e., show graphically together) the trend in retail sales of the open and reserved wineries along Highway 29 in Napa. Describe your graph.
   f. Show graphically the trend in retail sales for the reserved wineries along the Silverado Trail in Napa.
   g. Compare (i.e., show graphically together) the trend in retail sales of the open and reserved wineries along the Silverado Trail in Napa. Describe your graph.

2. Indexing
   a. Compare (i.e., show graphically together) the trend in indexed retail sales for the open Highway 29 and open Silverado Trail wineries. Describe your graph.
   b. Compare (i.e., show graphically together) the trend in indexed retail sales of the open and reserved wineries along Highway 29 in Napa. Describe your graph.
   c. Compare (i.e., show graphically together) the trend in indexed retail sales of the open and reserved wineries along the Silverado Trail in Napa. Describe your graph.

3. Regression Analysis
   a. Estimate the following regression model which compares the growth rate in retail sales of the open Highway 29 wineries with that of the open Silverado Trail wineries.
      \[ \text{Incases} = \beta_0 + \beta_1 \text{time} + \beta_2 \text{Holiday} + \beta_3 \text{Silverado} + \beta_4 \text{Silverado} \times \text{time} + \beta_5 \text{Silverado} \times \text{Holiday} + u_i \]
      Where Holiday is a dummy that accounts for the peak sales months of October, November and December. However, because the holidays occur at the end of the month those sales are represented in the months of November, December and January in the data. Thus, use those months when you define your dummy variable.
      b. Describe the difference, if any, in sales between the open Highway 29 and open Silverado Trail wineries.
      c. Construct and estimate a regression model which compares the growth rate in retail sales of the open Highway 29 wineries with that of the reserved Highway 29 wineries.
      d. Describe the difference, if any, in sales between open and reserved wineries along Highway 29.
      e. Construct and estimate a regression model which compares the growth rate in retail sales of the open Silverado Trail wineries with that of the reserved Silverado Trail wineries.
      f. Describe the difference, if any, in sales between open and reserved wineries along the Silverado Trail.