

Team Assignments #2

Peanut Butter Demand Forecasting Assignment

Group Assignment

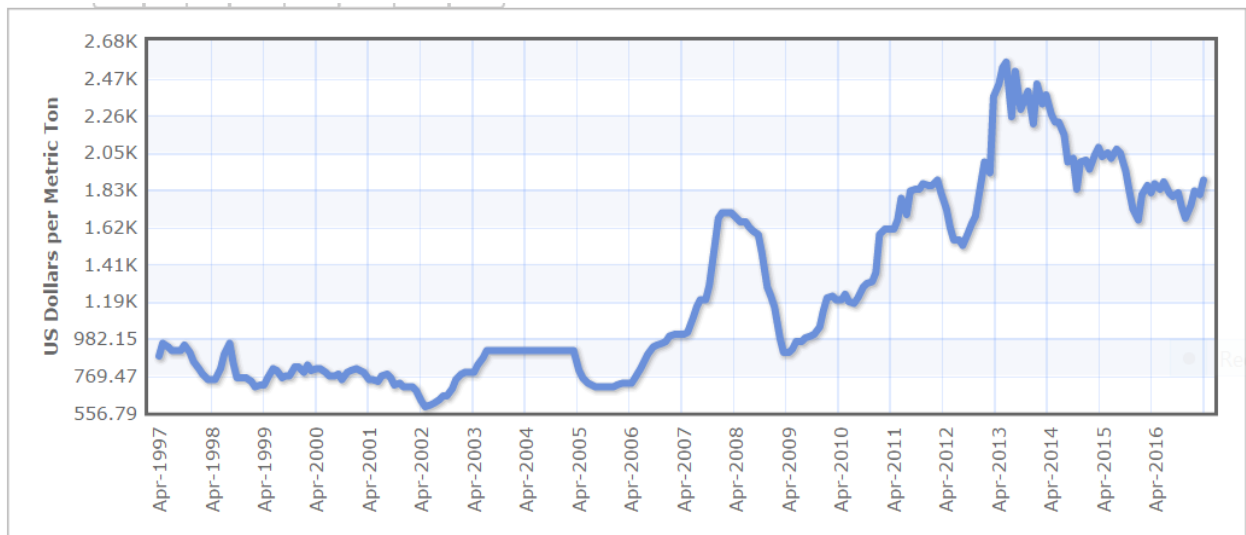
Due: Wednesday Dec. 11, by 8:00am
(150 pts)

Your team must accomplish three main tasks in this assignment.

1. (50 pts.) Prepare a one-year-ahead monthly forecast for the Boston market demand forecast (in pounds) for the Peanut Butter category. The purpose of this forecast is to plan ahead in terms of production capacity, labor-force planning and aggregate purchases of raw materials (peanuts). We consider only two distribution channels: GROCERY STORES and DRUGSTORES.

Bulk peanut market prices experienced a significant increase and this price increase affected industry-wide production costs and resulted on a generalized increase in peanut butter prices. It is not clear what impact that event may have had on the demand (or for modeling purposes on the demand function) for peanut butter or how to reflect this on your forecast model for Unilever's products (Question 3 below). The chart below shows the timing of the increase in the price of peanuts.

(Source: <http://www.indexmundi.com/commodities/?commodity=peanuts&months=240>)



2. (50 pts.) The following question asks you to prepare a one year ahead monthly forecast for the combined sales of all varieties of the "Skippy" brand. (Please read Question 3); however, before you can accomplish this task, you must analyze the impact of the price of peanuts on peanut butter price and ultimately the effect (and timing) it had on the demand (and hence your demand model).
3. (50 pts.) Prepare a one-year ahead monthly forecast for the combined sales of all varieties of the "Skippy" brand. This is produced by the Unilever Corporation. You may identify these products by their

UPC code, which is formed in part by the vendor (VEND) number and product (ITEM) numbers. The Vendor number in the UPC corresponding to the Unilever Corporation can be obtained from the file titled "UPC Information.csv".

You will submit a written report consisting of two sections (a) a short, max 3 pages, executive summary where you summarize your forecasting approach and your forecasts, (b) a detailed report (either a word file plus an R-script file or just an R-Notebook) that explains how did you obtained your forecasts and justifies your modeling choices. In addition to this report, you will also submit any additional data files you used for your analysis (not provided by me) to generate the forecasts.

To get you started on this assignment I am giving you the following data files:

- Files with channel-specific sales on the Boston market:
- Additional files with explanatory information:
 - a) ADB Measure Definitions.doc
 - b) Week-number to calendar translation.xls
 - c) Detailed UPC product information