

University of Massachusetts
Department of Finance and Operations Management

FOMGT 359: Business Forecasting

Syllabus – Spring, 2008

Instructor: Dr. Robert A. Nakosteen

Office: 222C School of Management

Office hours: Tuesdays, 2-3pm; Thursdays, 10-11am.

All text material in this course will either be handed out, or are available on line.

For the industry study, Mr. Michael Davis, the University's Business Reference Librarian, will provide materials in a presentation.

For the review of regression analysis, see the regression review on my faculty web site:

intra.som.umass.edu/nakosteen.

For the macroeconomics review, read the business pages of the Boston Globe, the New York Times, the Wall Street Journal, or any other major newspaper. To review the role of the Federal Reserve System, see <http://www.federalreserve.gov/>.

Other readings for this course will either be handed out, or are available on my faculty web site:

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Forecasts may be either subjective or objective. A subjective forecast can be prepared by reading extensively about a situation and the economy, and then combining this information through some unspecified judgement process to come up with a forecast. A disadvantage of this form of forecasting is that there is no systematic way to improve forecast accuracy by learning "correct" techniques.

The objective approach to forecasting, on the other hand, involves developing a model which is generally constructed by studying past relationships between the item to be forecast and the factors thought to affect it. Objective forecasting methods have several advantages over the subjective variety. Because they are objective, the forecasts are not affected by what the forecaster wishes the outcome to be. Many of the objective methods also include processes by which the forecasting model learns from its past errors. Perhaps most importantly, objective methods provide a basis for evaluating forecast accuracy and for developing confidence ranges for forecasts. This course concentrates on these objective methods of forecasting.

All forecasting problems can be divided into three types. The first type involves forecasting the amount of something, e.g., sales, customers served, birth rates, or stock prices. The second type of forecast involves the timing of some event, such as the date on which a machine part will fail. The third type of forecast involves the probability of some events occurring, such as the probability of rain on July 15 of next year. This course will concentrate on the first of these types of forecasts -- forecasts of amounts. These are the most common of forecasting problems encountered in business.

Attendance:

The responsibility for attending class sessions rests with each individual student in accordance with his/her individual objectives. Attendance will not directly affect your course grade, but you alone are responsible for material covered, assignments made, etc.

Grading:

Your course grade will be determined by an assessment of the following:

- An industry study (25%).
- A memorandum describing the current state of the U.S. economy, and recommending Federal Reserve action (25%).
- A “quiz” on regression analysis (25%).
- A forecasting project (25%).

Industry Study

Business forecasting always takes place in the context of an industry (defined as a group of companies all producing more or less the same product or service). You will be assigned an industry on which you will write a short report. This report will include data and narrative describing the industry. More detail on this assignment will be handed out later.

Regression Analysis Quiz

The quiz covers our review of basic regression analysis, a basic tool of business forecasting. The date of the quiz will be announced at least a week ahead of time. If you miss the quiz, you will be required to take a makeup during the final examination period in May.

Fed Prediction

We will spend some time discussing the state of the economy, and reviewing the Federal Reserve System (“Fed”) and how it influences interest rates, and therefore how it influences business cycles. You will prepare short paper reviewing of the current state of the economy, along with a recommendation for future “Fed” action.

Forecasting Project

Using an assigned data set that I will distribute to you, you will apply the various forecasting techniques we cover in this course. These techniques include:

- De-seasonalizing and re-seasonalizing time-series data.
- Computing and interpreting seasonal adjustment factors.
- Forecasting using “smoothing” techniques.
- Forecasting using regression time trend techniques.

Using spreadsheet technology

Many of the assigned problems need to be completed with the assistance of a computer. Doing them “by hand” would cause you great stress and take way too much time. The computer application most appropriate in doing quantitative analysis in business is the spreadsheet. I assume that you all have sufficient experience with spreadsheets, probably Excel. If not, it is your responsibility to gain literacy with this tool. Please see me if you need some guidance in this regard.