# Preface

"The trend is your friend" is a practical principle often used by business managers. Managers seek to forecast their future sales, expenditures, and profitability in order to make production and other operational decisions. The problem is how best to identify and discover business trends and utilize trend information for attaining objectives of firms.

This book contains an Excel-based solution to this problem. A more in-depth book by the authors entitled *The Power of Profit* by Springer (2009) proposed a "profit system model" of the firm that enables forecasts of trends in sales, expenditures, profits, and other business variables. Here, we are pleased to provide an Excel version of the profit system model that is easy to use and should make our model available to a wider audience of potential users for detecting and estimating business trends. For those who are more sophisticated in statistical analysis, standard econometric packages can also be used.

Our Excel solution is conveniently provided in a computer program dubbed *FIRM* to be run on Windows with Microsoft Excel 2010. *FIRM* can be used to forecast trends in the following key business variables: sales, assets, profits, profit rate, and profit margin for conventional (unregulated profit) firms. The program uses historical time series of total sales, total costs, and total assets of the firm from its financial statements (income statements and balance sheets); estimates relationships among these variables; and then employs the estimated relationships to forecast trends in these vital business variables. Our goal is to equip business managers and students with easy-to-use tools for both understanding and forecasting trends in important business variables, thereby empowering them to make better business decisions.

## Learning by Example

This book allows users to "learn by example" based on historical financial data for an actual US firm. To demonstrate how to use the business analysis program *FIRM*, historical time series of total sales, total costs, and total assets are provided for the building supply company Home Depot.

## Business Modeling and Simulation as a Learning Process

Ezra Solomon, a member of President Nixon's Council of Economic Advisors, once said: "The only function of economic forecasting is to make astrology look respectable." Despite its past records, economic forecasts are made formally or informally by business and government organizations in an effort to find the most probable alternative futures resulting from current decisions. The issue of economic forecasting is not whether or not to forecast, but how to utilize all available information efficiently as inputs for the output of finding alternative futures. Although economic models have not been highly successful for forecasting short-term fluctuations in economic and business variables, time series economic and business models have been more successful in forecasting trends in business variables over longer periods. Time series models of firms and industries can use past histories of the most fundamental business variables and the relationships among these variables to extract long-term trends in business data—more specifically, to discover the average paths of expected values of business variables.

Annual statements of firms' balance sheets and income statements contain their past records of revenues (sales), profits, capital stocks, and labor employed to produce goods and services. Organizing these records based on annual or quarterly data gives time series of these variables. Anari and Kolari (2009) show that there are dynamic relationships among sales, assets, profit, profit rate, and profit margin and that these relationships can be exploited using equations for these fundamental business variables. The resultant model of the firm can be estimated and then be used for forecasting business trends as well as simulation of business decisions. Thus, our profit system model of the firm is an analytical framework to organize business data variables to learn about the relationships among the variables. By comparing the forecasts of business trends generated from the model *FIRM* with actual outcomes of key variables, the learning process is expected to help model users to utilize productively the information contained in accounting information for forecasting and business decision making.

## What You Should Know to Use This Book

Users need to install the Analysis Toolpak, an Excel add-in program that is available when Microsoft Office or Excel is installed. To install the Analysis Toolpak, choose the Office Button, then select Excel Options, then select Add-Ins, and finally select Analysis Toolpak VBA. Also, the Excel Ribbon should display the Developer tab in order to run *FIRM*. To show the Developer tab for Microsoft Office 2010 applications, (1) click the File tab, (2) click Options, (3) click Customize Ribbon, (4) select Developer, and (5) click OK to close the Options dialog box. To show the Developer tab for Excel 2007, (1) click the Microsoft

Office Button, (2) click Excel Options, (3) click Popular, and (4) select the Show Developer tab in the Ribbon check box.

Only everyday Excel tasks such as Copy, Paste, and Delete are needed to use the model *FIRM*. Also, users can utilize the time series data produced by the programs to draw charts, compute moving averages of the time series, and compute various statistics such as mean and standard deviation.

## How to Use the Excel Software in This Book

The user familiar with Excel can begin with Chap. 3, use the software with the supplied time series data for Home Depot, and by means of only a few clicks, see the forecasts of trends in sales, assets, and profits and perform some simulations. Of course, those interested to know more about the foundations of the model of the firm can read our 2009 book *The Power of Profit*. For those familiar with econometrics, our Excel programs can be used as a prelude to using econometric packages to develop profit system models as discussed in *The Power of Profit*.

## System Requirements

To use this book's program, a copy of Microsoft Excel 2007 or later versions needs to be installed on your computer.

## Support Information

We have made every effort to ensure the accuracy of examples in this book and the programs contained in the companion disk. To provide feedback on the programs and the book's contents, you can send email to: Manari@mays.tamu.edu or Jkolari@mays.tamu.edu.

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