

Summary

In this chapter, we have examined three methods of forecasting financial statements and variables. We used the percent of sales technique to forecast the firm's income statement and balance sheet based upon an estimated level of sales. We used a time-trend technique to forecast sales as an input to the percent of sales method. Finally, we looked at regression analysis to help generate a better forecast of the cost of goods sold by using the relationship between that and sales over the past five years.

We have barely scratched the surface of forecasting methodologies. However, we hope that this chapter has stimulated an interest in this important subject. If so, be assured that Excel, either alone or through an add-in program, can be made to handle nearly all of your forecasting problems. Please remember that any forecast is almost assuredly wrong. We can only hope to get reasonably close to the actual future outcome. How close you get depends upon the quality of your model and the inputs to that model.

TABLE 5-3
FUNCTIONS INTRODUCED IN THIS CHAPTER

Purpose	Function	Page
Forecast future outcomes based on a time trend	TREND (<i>KNOWN_Y'S</i> , <i>KNOWN_X'S</i> , <i>NEW_X'S</i> , <i>CONST</i>)	156

Problems

1. Using the data in the student spreadsheet file P&G.xlsx (to find the student spreadsheets for *Financial Analysis with Microsoft Excel*, sixth edition, go to www.cengage.com/finance/mayes) forecast the June 30, 2011, income statement and balance sheet for Procter & Gamble. Use the percent of sales method and the following assumptions: (1) Sales in FY 2011 will be \$81,000; (2) The tax rate will be 27.26%; (3) Each item that changes with sales will be the five-year average percentage of sales; (4) The preferred dividend will be 219; and (5) The common dividend payout ratio will be 42% of income available to common stockholders.
 - a. What is the discretionary financing needed in 2011? Is this a surplus or deficit?
 - b. Assume that the DFN will be absorbed by long-term debt and that the total interest rate is 4.50% of LTD. Set up an iterative worksheet to eliminate it.

- c. Create a chart of cash vs. sales and add a linear trend line. Is the cash balance a consistent percentage of sales? Does the relationship fit your expectations?
 - d. Use the regression tool to verify your results from part c. Is the trend statistically significant? Use at least three methods to show why or why not.
 - e. Turn off iteration, and use the Scenario Manager to set up three scenarios:
 - 1) *Best Case* — Sales are 5% higher than expected.
 - 2) *Base Case* — Sales are exactly as expected.
 - 3) *Worst Case* — Sales are 5% less than expected.What is the DFN under each scenario?
2. Use the same data as in Problem 1.
- a. Recalculate the percentage of sales income statement, but this time use the **TREND** function to forecast other income and interest expense.
 - b. Recalculate the percentage of sales balance sheet, but this time use the **TREND** function to forecast cash, gross property plant and equipment, gross intangibles, and other long-term assets.
 - c. Do these new values appear to be more realistic than the original values? Does this technique make sense for each of these items? Might other income statement or balance sheet items be forecasted in this way?
3. The student spreadsheet file “Chapter 5 Problem 3.xlsx” (to find the student spreadsheets for *Financial Analysis with Microsoft Excel*, sixth edition, go to www.cengage.com/finance/mayes) contains monthly total returns for the S&P 500 index (using SPY as a proxy), Cymer, and Fidelity Contrafund from June 2006 to May 2011.
- a. Create a scatter plot to show the relationship between the returns on Cymer and the S&P 500. Describe, in words, the relationship between the returns of Cymer and the S&P 500. Estimate the slope of a regression equation of this data. Repeat for Contrafund.

- b. Add a linear trend line to the chart, and place the equation and R^2 on the chart. Does this equation confirm your guess from part a? How much of the variability in Cymer returns can be explained by variability in the broad market? Repeat for Contrafund.
- c. Using the Analysis ToolPak add-in, run a regression analysis on this data. Your dependent variable is the Cymer returns, and the independent variable is the S&P 500 returns. Does this confirm the earlier results? The slope coefficient is Cymer's beta. Is the beta of this stock statistically significant? Explain.
- d. Repeat part c using the returns on Contrafund and the S&P 500. Compare the R^2 from both regressions. What conclusions can you draw from the difference?

Internet Exercises

- 1. Because you are reading this after the end of Procter & Gamble's fiscal year 2011, how do your forecasts from the previous problems compare to the actual FY 2011 results? Does it appear that more information would have helped to generate better forecasts? Insert Procter & Gamble's actual sales for 2011 into your forecast. Does this improve your forecast of earnings?
- 2. Choose your own company and repeat Problem 3. The data can be easily obtained from Yahoo! Finance (<http://finance.yahoo.com>). Enter a ticker symbol and get a stock price quote. On the left side of the page click the link for "Historical Prices." Set the dates for a five-year period and the frequency to monthly. Click the link at the bottom of the page to load the data into Excel. Now, repeat the steps using the ticker symbol SPY (an exchange traded fund that mimics the S&P 500). Now, combine the monthly closing prices onto one worksheet and calculate the monthly percentage changes. You should now have the data necessary to answer the questions from Problem 3. Note that to improve your results, you can also get the dividends and calculate the monthly total returns.