

PROBLEMS

For questions 1 to 7, please use the following projections for Top-A1 Inc.:

- ◆ Total sales of \$150,000
- ◆ Cost of goods sold equal to 76 percent of sales
- ◆ Total expenses equal to 14 percent of sales
- ◆ Tax rate of 35 percent
- ◆ Beginning equity of \$50,000
- ◆ Beginning inventory of \$12,000
- ◆ Age of ending inventory of 60 days
- ◆ Minimum cash balance of \$10,000
- ◆ Accounts receivable of 30 days
- ◆ Fixed assets of \$60,000
- ◆ Accounts payable of 35 days

1. Calculate the projected gross profit for Top-A1.
2. Calculate the projected purchases for Top-A1.
3. Create an entire pro forma income statement for Top-A1. Be sure to calculate the projected net earnings.
4. Assume Top-A1 has a dividend payout of 40 percent. Calculate the projected change in retained earnings for Top-A1.
5. Calculate the projected accounts receivable for Top-A1.
6. Calculate the projected accounts payable for Top-A1.
7. Create a pro forma balance sheet. Calculate the long-term debt as the balancing amount.
8. What would be the impact on Top-A1's pro forma net earnings if sales were to change to \$200,000?
9. What would be the impact on Top-A1's pro forma long-term debt if sales were to change to \$200,000 and the age of payables were to change to 45 days?
10. Now, assume Top-A1's sales in the subsequent year increase by 15 percent. If all the other relationships remain the same, what will be the pro forma net earnings in two years?
11. Again, assume Top-A1's sales in the subsequent year increase by 15 percent. If all the other relationships remain the same, what will be the pro forma loan requirement in two years?

APPENDIX: SPREADSHEET ANALYSIS

It's often reasonably straightforward to change one assumption in a pro forma financial statement—for example, age of accounts payable—then determine the impact of that change on a firm's loan requirement. However, a more accurate and versatile approach is to develop pro forma statements using commonly available software spreadsheet packages (such as Microsoft Excel). Spreadsheet analysis is particularly useful because it allows you to see the effects of changing more than one variable at the same time. This appendix describes some basic spreadsheet approaches to sensitivity analysis, in the context of Excel.

Before proceeding with our analysis, we need to develop some simple spreadsheets. Making spreadsheets is an extremely useful way to better understand the relationships between different elements of a firm's financial statements. The spreadsheet creation process is relatively straightforward. If you've never before had the opportunity to make your own spreadsheet, now is your chance!

The spreadsheet creation process involves inputting *formulas* or equations into spreadsheet cells, in addition to inputting *text* (i.e., actual words) and *numbers*. The formulas represent simple income statement and balance sheet relationships. An example is presented in **Figure A6.1**.⁷ This example incorporates the pro forma income statement developed in **Figure 6.3** and the pro forma balance sheet developed in **Figure 6.5**. The actual spreadsheets can also be copied from the MyFinanceLab site.

⁷ See the "Spreadsheet" spreadsheet.